SEQUENCE LISTING

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FEIJEN, Jan

<120> Isolated and Recombinant Antimicrobial Peptides Thrombocidin-1 (TC-1) and Thrombocidin-2 (TC-2) or Variants Thereof

<130> 702 000648

<140> 09/509,391
<141> 2000-07-07

<150> EP 97202934.2
<151> 1997-09-25

<150> EP 98201411.0
<151> 1998-05-01

<160> 18

<170> MS Word 97 SR-2

<210> 1
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<223> CTAP-III (connective tissue activating peptide)

<400> 1

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Asn Leu Ala Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala
  1               5                  10                  15
Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys
             20                  25                  30
Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln
         35                  40                  45
Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp
     50                  55                  60
Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly
 65                  70                  75                  80
Asp Glu Ser Ala Asp
                85
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<210> 2
<211> 4
<212> PRT
<213> Homo sapiens

<220>
<223> N-terminus of TC-1a and TC-1b thrombocidins

<400> 2

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Ala Glu Leu Arg
  1
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<210> 3
<211> 68
<212> PRT
<213> Homo sapiens

<220>
<223> TC-1* thrombocidin variant

<400> 3
Ala Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro
1 5 10 15
Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn
20 25 30
Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu
35 40 45
Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala
50 55 60
Gly Asp Glu Ser
65

<210> 4
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<223> N-terminus of TC-1d thrombocidin

<400> 4
Tyr Ala Glu Leu Arg
1 5

<210> 5
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<223> C-terminus of TC-1d thrombocidin

<400> 5
Ala Gly Asp Glu Ser
1 5

<210> 6
<211> 83
<212> PRT
<213> Homo sapiens

<220>
<223> TC-2 thrombocidin

<400> 6
Asn Leu Ala Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala
1 5 10 15
Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys
20 25 30
Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln
35 40 45
Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp

```
     50                  55                  60
Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly
 65                  70                  75                  80
Asp Glu Ser

<210> 7
<211> 34
<212> DNA
<213> Homo sapiens

<220>
<223> Forward primer

<220>
<221> misc_feature
<222> (5)...(10)
<223> BamHI restriction site

<400> 7
tataggatcc atgagcctca gacttgatac cacc                                    34

<210> 8
<211> 38
<212> DNA
<213> Homo sapiens

<220>
<223> Reverse primer

<220>
<221> misc_feature
<222> (5)...(10)
<223> BamHI restriction site

<220>
<221> terminator
<222> (11)...(13)
<223> Stop sequence

<400> 8
tataggatcc tcaatcagca gattcatcac ctgccaat                                38

<210> 9
<211> 33
<212> DNA
<213> Homo sapiens

<220>
<223> Forward primer for CTAP-III and TC-2

<220>
<221> misc_feature
<222> (7)...(12)
<223> NdeI restriction site

<400> 9
gtgtaacata tgaacttggc gaaaggcaaa gag                                     33

<210> 10
<211> 33
<212> DNA
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<213> Homo sapiens

<220>
<223> Forward primer for NAP-2 and TC-1*

<220>
<221> misc_feature
<222> (7)...(12)
<223> NdeI restriction site

<400> 10
gtgtaacata tgtatgctga actccgctgc atg 33

<210> 11
<211> 36
<212> DNA
<213> Homo sapiens

<220>
<223> Forward primer for TC-1

<220>
<221> misc_feature
<222> (7)...(12)
<223> NdeI restriction site

<400> 11
gtgtaacata tgtatctccg ctgcatgtgt ataaag 36

<210> 12
<211> 68
<212> PRT
<213> Homo sapiens

<220>
<223> TC-1 thrombocidin

<400> 12
Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys Asn
1 5 10 15
Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln Val
20 25 30
Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp Pro
35 40 45
Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly Asp
50 55 60
Glu Ser Ala Asp
65

<210> 13
<211> 70
<212> PRT
<213> Homo sapiens

<220>
<223> NAP-2 (neutrophil activating peptide)

<400> 13
Ala Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro
1 5 10 15
Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn

```
            20                  25                  30
Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu
        35                  40                  45
Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala
    50                  55                  60
Gly Asp Glu Ser Ala Asp
65                  70
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<210> 14
<211> 69
<212> PRT
<213> Escherichia coli

<220>
<223> rMTC-1* (TC-1* carrying an additional N-terminal methionine)

<400> 14

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Met Ala Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His
  1               5                  10                  15
Pro Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys
            20                  25                  30
Asn Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys
        35                  40                  45
Leu Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu
    50                  55                  60
Ala Gly Asp Glu Ser
65
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<210> 15
<211> 84
<212> PRT
<213> Escherichia coli

<220>
<223> rMTC-2 (TC-2 carrying an additional N-terminal methionine)

<400> 15

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Met Asn Leu Ala Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr
  1               5                  10                  15
Ala Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro
            20                  25                  30
Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn
        35                  40                  45
Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu
    50                  55                  60
Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala
65                  70                  75                  80
Gly Asp Glu Ser
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<210> 16
<211> 91
<212> PRT
<213> Escherichia coli

<220>
<223> rYTC-1 (TC-1 with an N-terminal His-tag, plus a tyrosine residue)

<220>
<221> SITE
<222> (1)...(21)
<223> Antimicrobial activity enhancing sequence (Histag)

<400> 16
Met Gly His His His His His His His His His Ser Ser Gly His
1 5 10 15
Ile Glu Gly Arg His Met Tyr Leu Arg Cys Met Cys Ile Lys Thr Thr
20 25 30
Ser Gly Ile His Pro Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys
35 40 45
Gly Thr His Cys Asn Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly
50 55 60
Arg Lys Ile Cys Leu Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val
65 70 75 80
Gln Lys Lys Leu Ala Gly Asp Glu Ser Ala Asp
85 90

<210> 17
<211> 93
<212> PRT
<213> Escherichia coli

<220>
<223> rYNAP (NAP with an N-terminal His-tag, plus a tyrosine residue)

<220>
<221> SITE
<222> (1)...(21)
<223> Antimicrobial activity enhancing sequence (Histag)

<400> 17
Met Gly His His His His His His His His His His Ser Ser Gly His
1 5 10 15
Ile Glu Gly Arg His Met Tyr Ala Glu Leu Arg Cys Met Cys Ile Lys
20 25 30
Thr Thr Ser Gly Ile His Pro Lys Asn Ile Gln Ser Leu Glu Val Ile
35 40 45
Gly Lys Gly Thr His Cys Asn Gln Val Glu Val Ile Ala Thr Leu Lys
50 55 60
Asp Gly Arg Lys Ile Cys Leu Asp Pro Asp Ala Pro Arg Ile Lys Lys
65 70 75 80
Ile Val Gln Lys Lys Leu Ala Gly Asp Glu Ser Ala Ile
85 90

<210> 18
<211> 86
<212> PRT
<213> Escherichia coli

<220>
<223> rMCTAP (CTAP with an additional N-terminal methionine)

<400> 18

Met Asn Leu Ala Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr
1 5 10 15
Ala Glu Leu Arg Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro
20 25 30
Lys Asn Ile Gln Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn
35 40 45
Gln Val Glu Val Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu
50 55 60
Asp Pro Asp Ala Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala

65 70 75 80

Gly Asp Glu Ser Ala Asp
85